

Application No.: 09/889,287

Docket No.: 21381-00067-US

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application.

Please cancel claims 21-23 and 38-43 without prejudice to their reentry at some later date.

1. (Previously Presented) A method for synthesizing 2-chloro-9-(2-deoxy-2-fluoro- $\beta$ -D-arabinofuranosyl)-9H-purin-6-amine which comprises:
  - a) reacting the anionic form of a 2-chloro-6-substituted purine with a protected and activated 2-deoxy-2-fluoro-D-arabinofuranose; wherein the purine is substituted at position 6 with a member selected from the group consisting of halogen, amino, and protected amino;
  - b) reacting the product from a) with an alkoxide to provide 2-chloro-6-alkoxy purine nucleoside; and
  - c) reacting the 2-chloro-6-alkoxy purine nucleoside with ammonia to provide the 2-chloro-9-(2-deoxy-2-fluoro- $\beta$ -D-arabinofuranosyl)-9H-purin-6-amine.
2. (Original) The method of Claim 1 wherein the 6-substituted group in the 2-chloro-6-substituted-purine is a halogen.
3. (Original) The method of Claim 1 wherein the 6-substituted group in the 2-chloro-6-substituted-purine is chlorine.
4. (Original) The method of Claim 1 wherein the anionic form is an alkali metal salt

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or organic amine salt.

5. (Original) The method of Claim 1 wherein the anionic form is an alkali metal salt.

6. (Original) The method of Claim 5, wherein the alkali metal is sodium.

7. (Original) The method of Claim 1 wherein the protecting group on the 3- and 5-hydroxyls of the 2-deoxy-2-fluoro-D-arabinofuranose is selected from the group consisting of an acyl group, ether group, and combinations thereof, and wherein the activating group at C-1 of the 2-deoxy-2-fluoro-D-arabinofuranose is selected from the group consisting of halo, alkylsulfonyloxy, and arylsulfonyl groups.

8. (Original) The method of Claim 1 wherein the 2-deoxy-2-fluoro-D-arabinofuranose is 2-deoxy-2-fluoro-3, 5-di-O-benzoyl- $\alpha$ -D-arabinofuranosyl bromide.

9. (Original) The method of Claim 1 wherein the reaction of 2-chloro-6-substituted purine with the 2-deoxy-2-fluoro-D-arabinofuranose takes place in the presence of a dipolar, aprotic solvent.

10. (Original) The method of Claim 9 wherein the solvent is selected from the group consisting of acetone, acetonitrile, dimethylformamide, dimethyl sulfoxide, sulfolane, dimethylacetamide, and an ether.

11. (Original) The method of Claim 1 wherein the alkoxide is an alkaline metal alkoxide.

12. (Original) The method of Claim 11 wherein the alkoxide is methoxide.

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13. (Original) The method of Claim 1 wherein the alkoxide is sodium methoxide.
14. (Original) The method of Claim 1 wherein the reaction of step (b) takes place in the presence of a solvent.
15. (Original) The method of Claim 14 wherein the solvent is an alcohol corresponding to the alkoxide of step (b).
16. (Original) The method of Claim 1 wherein step (c) takes place in the presence of a solvent.
17. (Original) The method of Claim 16 wherein the solvent is an alcohol.
18. (Original) The method of Claim 1 wherein the ammonia is present as an alcoholic solution.
19. (Original) The method of Claim 18 wherein the alcoholic solution is in methanol or ethanol.
20. (Currently Amended) A method for synthesizing 2-chloro-9-(2-deoxy-2-fluoro- $\beta$ -D-arabinofuranosyl)-9H-purin-6-amine which comprises:
  - a) reacting the anionic form of a 2-chloro-6-substituted purine with a protected and activated 2-deoxy-2-fluoro-D-arabinofuranose; wherein the 6-substituted group in the 2-chloro-6-substituted purine is ~~selected from the group consisting of amino, protected amino and alkoxy~~; and then (b) reacting with ammonia to provide the 2-chloro-9-(2-deoxy-2-fluoro- $\beta$ -D-arabinofuranosyl)-9H-purin-6-amine.

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21-23 (Canceled)

24. (Currently Amended) The method of Claim 20 ~~23~~ wherein the alkoxy is methoxy or ethoxy.

25. (Original) The method of Claim 20 wherein the anionic form is an alkali metal salt or organic amine salt.

26. (Original) The method of Claim 20 wherein the anionic form is an alkali metal salt.

27. (Original) The method of Claim 26, wherein the alkali metal is sodium.

28. (Original) The method of Claim 20 wherein the anionic form is an organic amine salt.

29. (Original) The method of Claim 28, wherein the organic amine salt is DBU.

30. (Currently Amended) The method of Claim 20 wherein the protecting group on the 3- and 5-hydroxyls of the 2-deoxy-2-fluoro-D-arabinofuranose is selected from the group consisting of an acyl group, ether group, and combinations thereof, and wherein the activating group at C-1 of the 2-deoxy-2-fluoro-D-arabinofuranose is selected from the group consisting of halo, alkylsulfonyloxy, and arylsulfonyl ~~aryisulfonyl~~ groups.

31. (Original) The method of Claim 20 wherein the 2-deoxy-2-fluoro- D-arabinofuranose is 2-deoxy-2-fluoro-3,5 -di-O-benzoyl- $\beta$ -D-arabinofuranose bromide.

32. (Previously Presented) The method of Claim 20 wherein the reaction of the 2-chloro-6-substituted purine with the 2-deoxy-2-fluoro-D- arabinofuranose takes place in the

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presence of a dipolar, aprotic solvent.

33. (Original) The method of Claim 32 wherein the solvent is selected from the group consisting of acetone, acetonitrile, dimethylformamide, dimethyl sulfoxide, sulfolane, dimethylacetamide, and an ether.

34. (Original) The method of Claim 20 wherein step (b) takes place in the presence of a solvent.

35. (Original) The method of Claim 34 wherein the solvent is an alcohol.

36. (Original) The method of Claim 20 wherein the ammonia is present as an alcoholic solution.

37. (Original) The method of Claim 36 wherein the alcoholic solution is in methanol or ethanol.

38-43 (Canceled)

43 - 48 (Withdrawn).